APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,604	04/26/2001	Haixiang He	2494/105	8615

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EXAMINER
NGUYEN, HAI V

ART UNIT	PAPER NUMBER
2142	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/842,604	HE, HAIXIANG
	Examiner	Art Unit
	Hai V. Nguyen	2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>03</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 April 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>4/26/01</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 29092004

DETAILED ACTION

1.   This Office Action is in response to the application filed on 26 April 2001.

2.   Claims 1-28 are presented for examination

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Haggerty et al. U.S patent no. **6,331,983 B1** in view of **Cheng** et al. U.S. patent

application publication **2002/0150094 A1**.

5.   As to claim 1, Haggerty discloses a method of producing a multicast tree for a

multicast in a network, the network including a plurality of network devices

(switches/routers) that are members of the multicast, a set of the network devices each

including a multicast database that is protocol independent, the method comprising:

locating the multicast database within each of the set of the network devices

(Haggerty, col. 20, line 28 – col. 21, line 44);

retrieving multicast information from each located multicast database *(Haggerty, col.*

20, line 28 – col. 21, line 65); and however, Haggerty does not explicitly disclose tracing

the retrieved multicast information across the plurality of network devices to form the

multicast tree. Thus, the artisan would have been motivated to look into the related

networking art for potential system for implementing tracing the retrieved multicast

information across the plurality of network devices to form the multicast tree.

In the same field of endeavor, Cheng, related Hierarchical Level-Based Internet

Protocol Multicasting, discloses in an analogous art, to find a binding point (BPT) in the

established multicast tree for a mobile receiver or source moving out of its original

scope region. When a mobile host (a mobile receiver or source) moves out of the scope

region while engaging in a multicast session, it must join the same multicast tree

established within its original scope region in order to continue participating in the same

multicast session. The BPT is the HDR that provides linkages between the original

scope region and the new location of a mobile host through the shortest path *(Cheng,*

pages 12, 13, paragraphs [0154]-[0164]).

Accordingly, it would have been obvious to one of ordinary skill in the networking

art at the time the invention made to have incorporated Cheng's teachings of the finding

multicast information to establish the multicast tree *(Cheng, pages 12, 13, paragraphs*

[0154]-[0164]) with the teachings of Haggerty, for the purpose of *enabling the efficient*

transmission of multicast traffic in a switched network (Haggerty, col. 7, lines 5-20).

Cheng also suggests that providing the control multicast traffics over the network

(Cheng, page 6, paragraph [0052]-[0056]). Cheng also suggests HLIM includes

mechanisms to establish a multicast tree for a multicast session, to maintain such a tree

dynamically, and for autoconfiguration. Both host and network mobility is addressed by

the HLIM protocol (Cheng, page 6, paragraph [0054]).

6.   As to claim 2, Haggerty-Cheng discloses, wherein the multicast includes a root

node, the retrieved multicast information being traced from the root node, the root node

being one of the plurality of network devices *(Cheng, page 6, paragraphs [0052]-*

[0056]).

7.   As to claim 3, Haggerty-Cheng discloses, wherein the network implements the

Internet Protocol *(Cheng, page 6, paragraphs [0047]-[0048]).*

8.   As to claim 4, Haggerty-Cheng discloses, wherein the set of network devices

includes an unicast database having network information, the unicast database being

protocol independent, the method further including:

locating the unicast database within each of the set of network devices *(Cheng, page 6,*

paragraphs [0047]-[0048]; page 14, paragraph [0196]; pages 15, 16, paragraphs [0204]-

[0219]; page 18, paragraph [0257]; pages 26-28, paragraphs [0403]-[0440]; page 30,

paragraphs [0463]-[0464]; page 36, paragraph [0772]).

retrieving network data from each unicast database *(Cheng, page 6, paragraphs*

[0047]-[0048]; page 14, paragraph [0196]; pages 15, 16, paragraphs [0204]-[0219];

page 18, paragraph [0257]; pages 26-28, paragraphs [0403]-[0440]; page 30,

paragraphs [0463]-[0464]; page 36, paragraph [0772]); and

using the retrieved network data to form the multicast tree *(Cheng, page 6,*

paragraphs [0047]-[0048]; page 14, paragraph [0196]; pages 15, 16, paragraphs [0204]-

[0219]; page 18, paragraph [0257]; pages 26-28, paragraphs [0403]-[0440]; page 30,

paragraphs [0463]-[0464]; page 36, paragraph [0772]).

9.   As to claim 5, Haggerty-Cheng discloses, wherein each multicast database is a management information base *(Haggerty, col. 20, lines 14-56; Cheng, group database)*.

10.   As to claim 6, Haggerty-Cheng discloses, wherein at least one of the plurality of network devices includes a protocol dependent multicast database, the multicast tree being formed free from any data retrieved from the protocol dependent multicast database *(Cheng, page 6, paragraphs [0047]-[0048]; page 14, paragraph [0196]; pages 15, 16, paragraphs [0204]-[0219]; page 18, paragraph [0257]; pages 26-28, paragraphs [0403]-[0440]; page 30, paragraphs [0463]-[0464]; page 36, paragraph [0772])*.

11.   As to claim 7, Haggerty-Cheng discloses, wherein the retrieved multicast information is traced by an application incorporating the Simple Network Management Protocol *(Haggerty, col. 20, lines 14-56)*.

12.   As to claim 8, Haggerty-Cheng discloses, wherein the set of network devices includes no more than one of the plurality of network devices *(Cheng, page 6, paragraphs [0047]-[0048]; page 14, paragraph [0196]; pages 15, 16, paragraphs [0204]-[0219]; page 18, paragraph [0257]; pages 26-28, paragraphs [0403]-[0440]; page 30, paragraphs [0463]-[0464]; page 36, paragraph [0772])*.

13.   As to claim 9, Haggerty-Cheng discloses, wherein the set of network devices includes a first network device and a second network device, each multicast database including a set of multicast data, the set of multicast information being different in the multicast database in the first network device than the set of multicast information in the multicast database in the second network device *(Cheng, page 2, paragraph [0018])*.

14.   Claim 10 is corresponding apparatus claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

15.   Claims 11-17 are similar limitations of claims 2-8; therefore, they are rejected under the same rationale as in claims 2-8.

16.   Claim 18 is corresponding computer readable medium claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

17.   Claims 19-25 are similar limitations of claims 2-8; therefore, they are rejected under the same rationale as in claims 2-8.

18.   Claim 26 is corresponding apparatus in means plus function claim of claim 1; therefore, it is rejected under the same rationale as in claim 1.

19.   Claims 27-28 are similar limitations of claims 4-5; therefore, they are rejected under the same rationale as in claims 4-5.

20.   Further references of interest are cited on Form PTO-892, which is an

attachment to this action.

21.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hai V. Nguyen whose telephone number is 703-306-

0276. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jack Harvey can be reached on 703-305-9705. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JACK B. HARVEY
SUPERVISORY PATENT EXAMINER

Hai V. Nguyen
Examiner
Art Unit 2142